

Making space for wildlife

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Australia is fêted globally for its unique plants and animals and its ecological communities are testament to the wondrous processes of evolution. But, as the human population continues to grow and compete for land and resources, much of Australia's flora and fauna has become threatened with extinction.



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In addition to climate change, development – and all it entails – is perhaps the greatest threat to the natural systems whose health is intricately linked to ours.

In the context of nature, development incorporates any activity that changes a landscape from its natural state to a modified one. Urbanisation, agriculture, tourism, mining and transport infrastructure all involve the clearing of land and the removal or displacement of local plants and animals, some of which may already have declined to alarmingly low numbers.

However, the impact of development can be significantly reduced if the local flora and fauna is considered carefully at all stages of the development process.

Reducing the Impacts of Development on Wildlife is a practical manual for ensuring that damage to plants and animals from development is minimised wherever possible.

Drawing on the authors' extensive experience as environmental consultants, as well as a raft of Australian and international case studies, the book is an excellent reference guide for developers, consultants and non-specialists involved in environmental land management.

Presuming no reader expertise in the field, the book sets the scene with a summary and photos of the potential impacts of development on wildlife, such as habitat fragmentation and degradation, and collision between development and

habitats.

A short introduction to concepts such as ecosystem processes, population ecology, movement and dispersal provides a basic ecological grounding for the solutions discussed in the following chapters.

The authors stress the importance of understanding the behaviour of species in space and time, taking into account the possible effects of the development on seasonal movements and migrations beyond the development site.

The book is based on the standard environmental impact assessment motto of 'avoid, reduce, offset'. While the focus is on the second of these measures, the authors also emphasise the importance of strategic land use planning by councils across different spatial scales to help avoid impacts, rather than deal with their consequences.

This is particularly important where an area is subjected to numerous development projects over time, accumulating the potential impacts on wildlife in that area.

Readers are briefly reminded that both ecologically sustainable development and the precautionary principle are embedded in Australian government policy, even if they are rarely used.

For example, the authors discuss Traveston Dam development proposal in south-east Queensland, which the government rejected on the grounds that negative impact would outweigh the economic and social benefits to the region. At issue in this case were impacts on the threatened Australian lungfish, the Mary River cod and Mary River turtle.



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Measures to protect wildlife before, during and after development make up the body of the book. The first step is to conduct an ecological survey looking for signs of wildlife and habitat features that indicate the actual or possible presence of particular plants and animals that need protection. If vital habitat features cannot be excluded from development (the preferred option), wildlife should be removed, encouraged to move into adjoining habitat where possible or otherwise protected during the clearing process.

Subsequent chapters explore methods of deterring wildlife from the development site. The pros and cons of different types of fauna exclusion fencing are discussed and illustrated. Suitable 'companion' measures, such as land bridges and underpasses, can also enable species to traverse the area and reduce the effects of habitat fragmentation.

Other strategies discussed include the removal of preferred vegetation and the management of open water, as well as visual, chemical and auditory deterrents. If you've ever considered the expanses of mown grass adjacent to the landing strips at airports unattractive, so do the many seed-eating birds that might otherwise congregate there.

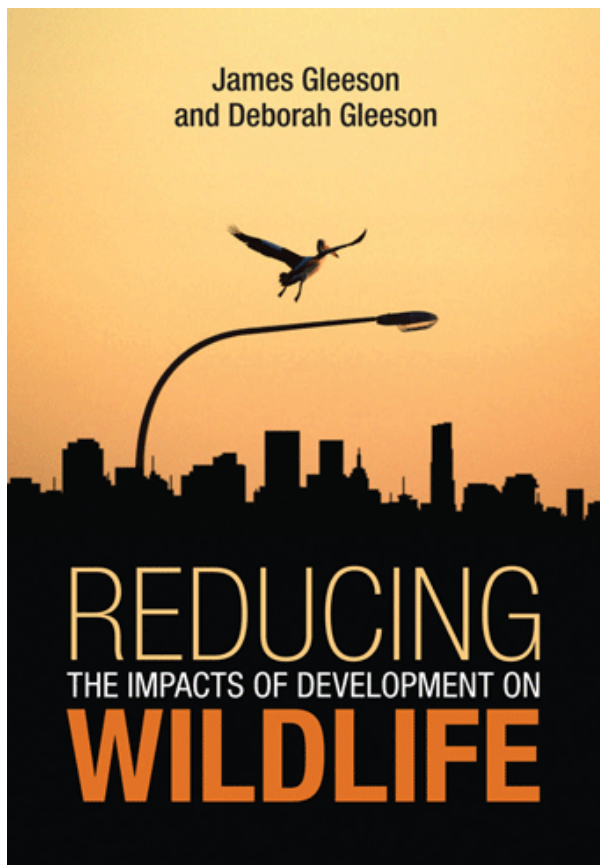
Dilemmas arise when measures proposed to prevent the impact on one species have serious consequences for others. For example, the incidence of road kill may be reduced by clearing wide strips of roadside vegetation, but this can also significantly reduce remnant habitat.

One of the most useful aspects of the book is the frequent use of tables to describe management options. For example,

the chapter dealing with habitat degradation near a development site includes a table on weed control measures and how they work, while the text addresses the effectiveness of weed control in different circumstances. These tables make it easy to refer back to information quickly, particularly where time is of the essence, such as during a site assessment. Other tables give explanatory overviews of management options (e.g. fauna bridges, artificial lighting), outlining the pros and cons as well as costs and alternative measures.

The book's readability is improved by the generous use of photos and illustrations, as well as by many boxed case studies of first-hand experiences at Australian development sites.

Reducing the Impacts of Development on Wildlife concludes with brief chapters on the fraught issue of environmental offsets and the importance of monitoring and adaptive management, and leaves the reader with an extensive list of references for further research if required. In the words of an environmental consultant friend: 'I wish we'd had this years ago.'



You can order a copy of *Reducing the Impacts of Development on Wildlife* online from CSIRO Publishing.

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